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MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP			EXAMINER	
300 S. WACKER DRIVE			RUSH, ERIC	
32ND FLOOR			ART UNIT	PAPER NUMBER
CHICAGO, IL 60606			2609	
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			06/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/501,113

Applicant(s)

SWATTON, STEWART NATHAN
RIDGLEY

Examiner

Eric Rush

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3 October 2006.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Wong U.S. Patent No. 5,822,445.

- With regards to claim 7, Wong teaches a method of forming a representation of an individual's fingerprint or palmprint comprising the steps of directing radiation from one or more points of contact of the individual with the core of an optical waveguide towards a detector

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(Wong, Column 3 Lines 33 – 49), characterised in that the radiation is so directed by the step of placing the individual's finger in contact with the core of a planar slab waveguide so as to cause radiation initially guided therein to be diverted out of the core and towards the detector. (Wong, Column 3 Lines 33 – 49, the light exits the prism upon when the “ridges of the finger 15 touch the face 12 to form an interface, the illuminating light is diffusely reflected, and will exit the prism through the viewing face 16 along optical path 30”)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1, 3, 6, and 8 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong U.S. Patent No. 5,822,445 in view of Johnson U.S. Patent No. 6,444,969.

- With regards to claims 1 and 6, Wong teaches a direct optical biometric sensor comprising detecting means for detecting radiation (**Wong, Column 3 Lines 45 – 49**) and radiation directing means for directing radiation from a point of contact of an individual with the radiation directing means towards the detecting means in response to contact of the individual with the radiation directing means at the point of contact (**Wong, Column 3 Lines 33 – 49**), wherein the radiation directing means comprises a planar slab waveguide having a core layer with a region which is at least partly exposed and means for introducing radiation into the core layer such that radiation propagates throughout the exposed region thereof (**Wong, Column 3 Lines 18 – 40**). Wong, however, fails to teach the sensor further comprising an interference filter disposed between the planar slab waveguide and the detecting means. Johnson teaches placement of an interference filter between the waveguide and the detecting means. (**Johnson, Fig. 1 Element 20, Column 4 Lines 24 – 30**) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wong to include the teachings of Johnson. This modification would have been prompted to

detect only the emitted frequency of radiation dispersed by the LEDs. The placement of this filter would help prevent artifacts that could be introduced from erroneous radiation.

- With regards to claim 3, Wong in view of Johnson teach a sensor according to claim 1. Wong teaches wherein the means for introducing radiation into the core layer of the planar slab waveguide comprises one or more diodes lasers or light-emitting diodes. **(Wong, Column 3 Lines 1 - 8)**
- With regards to claim 8, Wong teaches an optical biometric sensor comprising: a radiation detector; **(Wong, Column 3 Lines 35 – 49)** a radiation director capable of directing radiation from a point of contact of an individual with the radiation director towards the radiation detector in response to contact of the individual with the radiation director at the point of contact **(Wong Column 3, Lines 33 – 49)**, the radiation director further comprising a planar slab waveguide having a core layer with a region which is at least partly exposed and a radiation source for introducing radiation into the core layer such that radiation propagates throughout the exposed region thereof. **(Wong, Column 3 Lines 18 – 40)** **However Wong fails to teach** wherein the sensor further comprises an interference filter disposed between the planar slab waveguide and the radiation

detector. Johnson teaches the sensor further comprising an interference filter disposed between the planar slab waveguide and the radiation detector. **(Johnson, Fig. 1 Element 20, Column 4 Lines 24 – 30)** It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wong to include the teachings of Johnson. This modification would have been prompted to detect only the emitted frequency of radiation dispersed by the LEDs. The placement of this filter would help prevent artifacts that could be introduced from erroneous radiation.

- With regards to claim 9, Wong in view of Johnson teach the optical biometric sensor of claim 8. Wong teaches wherein the radiation source is selected from one or more diode lasers or one or more light emitting diodes. **(Wong, Column 3 Lines 1 - 8)**

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Tsutsui et al. U.S. Patent No. 5,448,659; which is directed to a device for fingerprint imaging and identification using a waveguide and total internal reflection of a light source.

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- Johnson U.S. Patent No. 6,255,641; which is directed to a method and device for fingerprint-imaging using an interference filter.
- Keagy et al. U.S. Patent No. 6,665,427; which is directed to a method and apparatus for acquiring an image of a fingerprint using a light source, waveguide, and total internal reflection.
- Borza U.S. Patent No. 5,859,420; which is directed to a fingerprint-imaging device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Rush whose telephone number is (571) 270-3017. The examiner can normally be reached on 7:30AM - 5:00PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ER


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